





Universal Acceptance

What it is and how it relates to digital inclusivity?

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American University Washington School of Law Tech, Law & Security Program

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KATHLEEN SCOGGIN: My name is Kathleen Scoggin, I'm the program coordinator at the Tech Law and Security Program, an an academic and research based program housed at the American University Washington College of Law here in DC.

We're excited to cohost this event with the Internet Governance Lab which supports great cross-university research and the Inclusive Tech policy Initiative, which puts inclusivity at the center of a lot of the work we do here at the university.

I also wanted to thank Joly and ISOC-DC for helping with some of the livestreaming today.

We are excited to host three great panelists I will introduce and have them talk about themselves in a minute, but given the range of experience within our -- within our participants I'm going to turn it over to Joe Catapano, the stakeholder engagement director for North America and global academia at ICANN for a brief introduction.

And thank you to him as well for the help in putting this together.

JOE CATAPANO: Thank you, Kathleen.

Thanks as always to American University for having me.

I'm a school of public affairs alum, so it's always good to be back with the university and talk about Internet governance topics.

As mentioned at the top, my name is Joe Catapano, I'm the director of stakeholder engagement for the North America region at the Internet Corporation for Assigned Names and Numbers.

Or ICANN.

And I also lead engagement efforts for the academic sector globally.

I'll be very brief today since I know you've got a wonderful discussion ahead on universal acceptance coming up that I know you're eager to have, and we have some great experts here in the field to speak to you.

So just very briefly, a little bit about ICANN, if you're unfamiliar.

So ICANN's mission is to ensure the stable and secure operation of the Internet's unique identifier systems, mainly domain names and Internet protocol addresses.

So to put that more simply, we operate the Internet's directory, if you will.

So that when you click on a link or type in a web address you get to where you want to go.

And so as the domain name system, or sometimes DNS, we use a lot of acronyms in the Internet governance and ICANN space, as the DNS has evolved over the years, so has the need for universal acceptance, which is the practice that you're going to hear about more today.

So that's the technical aspect of ICANN.

But to support those functions, there's an entire community of stakeholders from across the world that work together to develop policy.

And that is where the participation of individuals such as yourselves really comes into play.

So members of the academic community, the private sector, civil society, governments, the technical community, end users as well, they all play an integral part of the ICANN policy making process.

And so my team, and Naella's team, we're the global stakeholder engagement team for the ICANN organization.

So this is the function within the organization that connects those that have an interest in ICANN or ICANN issues or ICANN policy making, with the work itself.

We have a number of newcomer programs if you're completely new to ICANN that can help you get started.

As I kind of degree way off from a speaking role here, I'll drop links in the chat, they can take a look at the offerings that we have if you're just getting started.

If you've been around a while but you maybe aren't in a government space but not ICANN in particular, we're happy to help you get connected in any way that suits what you would like to do as well as obviously the policies that have been worked on at ICANN.

So I'll also drop my email in the chat, feel free to reach out directly with questions.

I'm based in Washington, DC, Naella is based in Los Angeles, and we've got the organization is global.

So wherever you are, we've probably got somebody who can help you out.

And so with that very brief introduction, I think I'll turn it over to Kathleen.

Thanks so much again, and enjoy the program.

KATHLEEN SCOGGIN: Thanks, Joe.

Really appreciate the background.

And like Joe said, if you're new to Internet governance or not, ICANN has a lot of great resources for you to make sure to take a look.

Now I'm going to turn to our panel this evening.

One of our panelists is on the way, so she'll pop in very soon.

Because they can way better describe what they do better than I can.

I'm going to turn it over to each of them to tell you more about their background, their current position, what they do on the day-to-day before we jump into the topic.

So I'm going to start with Susan.

SUSAN CHALMERS: Thank you so much, Kathleen.

And hello everybody.

It's a pleasure to be here with you.

For me, this early evening and for you, wherever you are.

My name is Susan Chalmers, and I lead the Internet governance team within the Office of International Affairs at the National Telecommunications and Information Administration, which sets within the United States Department of Commerce.

I personally have been in the field of Internet governance for I would say the better part of 12 years at this point.

But I've been with the government with NTIA for about six.

And I found universal acceptance and multilingualism on the Internet to be one of the most exciting and promising subjects from a policy perspective.

I'm happy to share a bit more about how NTIA views the topic, once we dig in.

But in terms of background, I think I'm okay.

I'll stop here.

Thanks.

KATHLEEN SCOGGIN: Thanks so much, Susan.

We'll jump into that.

Theresa, we're doing quick introductions before we jump N I'll turn it to Rick, give you a second to think about it.

RICK WILHELM: Thank you, Kathleen.

My name is Rick Wilhelm, I'm the CTO at Public Interest Registry, we're a nonprofit that we operate the dot org top-level domain.

We're one of the largest top-level domains that's a generic top-level domain, we've got about 10.8 million domain names registered globally.

It's opened everyone -- open to everyone.

We're a global platform that you don't have to have -- you don't have to be a nonprofit, but we're really home for mission-driven organizations and individuals, even businesses.

So -- I've been involved in domain names since 2001, at -- at different places, not all that time at PIR.

But at different registries, and I've worked also at a Raj streetcar.

I first got involved in IDNs very early on in that time, and they are -- as we'll get into, very, very intricate and challenging and an opportunity for lifelong learning, as we will hear further.

I'll kind of stop there and we'll move on to Theresa.

Thank you.

KATHLEEN SCOGGIN: Go ahead.

THERESA SWINEHART: Apologies for being late, hi a conflicting heating that was running over.

I'm Theresa Swinehart, I oversee the function at ICANN Internet corporation for assigned names and numbers.

The function being global domains and strategy.

And this team has responsibility for a wide range of areas.

Policy implementation, relations with the contracted parties, strategic initiatives in different events, and within our remit is also the work that's going on with internationalized domain names and universal acceptance.

And importantly also the work that we're doing in relation to universal acceptance day, and this event.

My colleagues will be joining as well, he has been instrumental in leading that entire team, and participating in the global UA Day event that was held in Serbia recently.

So looking forward to joining the discussion and to plating.

KATHLEEN SCOGGIN: Great.

Thank you so much, everyone.

As you can tell, we have a wealth of experience and knowledge from a lot of different perspectives on this panel, so I think we should just jump right into the topic of this panel, which as you heard, is universal acceptance for domain names and email addresses.

Specifically how that relates to digital inclusivity.

I think a lot of us, especially those among us that speak languages that don't use a Latin script or use accents, have typed an email into somewhere and gotten an error message.

Even if it hasn't specifically happened to you, you can see how that might happen.

One of the reasons for this error may be that the email has symbols or characters that aren't accepted by the system, this although is a very baseline description that we'll get way more into in this panel is the problem that universal acceptance seeks to solve, and it posits no matter the language or characters being used, every email address and domain name should be accepted in that way.

So this is an issue that a lot of people don't think about when they think about digital inclusivity.

But can fundamentally change once it's online.

So I'm going to turn to our panelists and ask our first question, which is how do you perceive the current state of universal acceptance for domain names and email addresses from a technical and policy standpoint?

And what key challenges remain to achieving full acceptance globally?

I'm going to start with Theresa, if that's okay.

THERESA SWINEHART: This is one of my favorite topics and near and dear to my heart.

So I think Kathleen as you had shared, inclusivity is not just about the ability to use one's language in verbal communications.

For the online environment, it's actually also not just about the content, but it's about how can I have the full experience of using the content and engaging in the content that allows me to include in that what the address looks like in sending it?

That should be the full experience around inclusivity and at the multilingual Internet.

And this doesn't mean just a script, but it also means in regards to the domain name system.

More than two to three letters or scripts to the right of the dot or in arabic to the left of the dot, we know that's actually going to resolve, and resolve well.

And it's oftentimes where one has a conversation with somebody that says, yes, I know I can have my content in a multilingual wear, but there's not awareness they could have that full experience.

And so for universal acceptance, how do we create awareness that that is actually possible?

You can actually do that.

We need to partner, though, with the right organizations, the right platform providers, share that it's actually possible to do this, and really encourage everybody to make that possible.

I realize it's a simple analogy, but it would be also -- it would be similar to creating awareness on the outside of an envelope, would be able to write the address in the language that you want to write it in the script that you want to write it, and you know it will get to the destination, as long as it has the right protocols in place to reach that destination.

And in the case of the postal system, it might be the country name and the ZIP code, or something to that effect.

And in the case of the Internet, it's really the protocols around that.

If you may, just a little bit of information about the opportunities, right now the global Internet penetration represents 66% of the population.

The next language speakers, though, are coming from communities that are not using Roman character sets.

If we look at it more generally, there are over 2,300 languages spoken in Asia, in Africa over 2,100.

In the Pacific Rim, 1,300.

In the Americas, 1,000, and in Europe, 280.

Imagine that population being able to have the full experience regardless of whether they're using an Arabic script or an umlaut on a letter to have that full experience.

So I think part of our challenge is affording these opportunities of awareness, and how to achieve that result to have the full inclusive experience in how one wants to use the Internet in the manner in which one wants to use it.

I hope that's a good start to the discussion.

KATHLEEN SCOGGIN: Thank you.

And I think people have a perception that why can't you just click to Google translate a web page, and why isn't that sufficient?

But there's such a deeper level to that, and I'm going to turn to Rick and ask sort of from a more technical point of view, what does it mean in answering a similar question?

RICK WILHELM: So thank you for the question.

And I agree with the points that Theresa was making.

I would offer that to make it all work is a big challenge.

It's a huge challenge.

I would encourage folks to take a look at the universal acceptance -- the UASG has put out a readiness report for the past couple years, it's dense reading, if you read it, but even if you just look at the charts and the colors and we'll get the link into the -- I only have the PDF open on my screen, but we'll get the link into the chat at some point.

But the UASG readiness report does a survey of a testing of the existing software, and even -- it's got some green, some yellow, and some red, but the most important bit that you will read and your big take-away, even if you just do a cursory page-through, would be just the number of components that have to work to make it all work.

When you send an email, it will give you an impression -- an appreciation of all of the things that have to work to make that email work.

Just like as Theresa said, when you -- if you get a letter, an air mail that goes from here to there, all the hands that have to touch it to get it across the water from my box to here, to a postal delivery place in Tokyo somewhere, a lot of people have to touch that thing.

There's a lot of stuff that has to go right.

And a lot of software has to be touched to make it all work, to make it interpret all these domain names and email addresses, and things like that correctly.

So I'll probably -- there's another aspect that maybe we'll wait until -- that deserves a double click on -- is a richer point where Theresa talked about all the other additional languages, and we'll later get into about something called label generation rules, and a whole completely set of different challenges, but let me stop there about just -- I'll stop there about the comment about how much software has to get touched and tested and made ready and fixed and bugs worked out and things like that, and just how difficult that is.

There's a lot of work to be done to accomplish the vision that Theresa is talking about.

I'm sure Susan has a point or two to make here about directions and things like that, so let me stop there and see the floor.

Thank you.

KATHLEEN SCOGGIN: Yeah.

I can definitely put -- I've got to make sure he has panel setting.

THERESA SWINEHART: Thanks so much.

He happens to be on the same meeting I'm at in Los Angeles, so I thought maybe it's a great opportunity if we don't mind.

KATHLEEN SCOGGIN: For sure.

He should have all the permissions now.

Or we can turn to Susan and come back to him.

Whatever works best.

THERESA SWINEHART: Maybe go to Susan and then we can have him do that.

KATHLEEN SCOGGIN: Yeah.

Great.

Susan?

Go for it.

SUSAN CHALMERS: Thank you.

I should begin by saying that NTIA strongly supports continued efforts to build a multilingual Internet, including through enabling multilingualism in the Internet's domain name system.

We believe universal acceptance is a foundational requirement for digital inclusion and recognize that a truly multilingual Internet will provide the gateway to the next billion users.

Global rates of UA readiness remain low, and the UASG readiness report mentioned by Rick is a valuable resource.

NTIA believes the primary challenges facing universal acceptance are raising awareness, much to Theresa's point, but there's also capacity building, coordination, and deployment.

This view is based on the understanding that most of the technical work for universal acceptance is done, the foundational technical work to enable the use of the DNS in different languages and scripts through IDNs began decades ago.

Much of that work has been successfully completed.

But looking ahead, achieving universal acceptance, readiness is less a technical problem I think, but more of a coordination problem.

And also an incentives problem.

People need to be incentivized to be UA ready.

Increasing universal acceptance readiness is again, a coordination problem, but one of the key stakeholders we have to reach out to are the global developers of is software and applications, including programming languages, email tools, online applications, social media applications, and others.

And when IDNs end internationalized email addresses are well supported by software and applications, then we think that end users will see the greatest benefits.

So really, I think the last thing I might add is what is -- what is -- one way to conceive of this problem is looking at this through of of an economics perspective and recognizing there is a latent demand for internationalized domain names.

If people I believe understood that the capability of using IDNs and internationalized email addresses that technical capability exists, then there could be more of a demand for these services.

But again, it's about raising awareness to the people who can make those decisions to implement -- implement UA and to make that available to the market.

Thank you.

KATHLEEN SCOGGIN: I think that's a great point.

I think there's the section of people that will come online with UA readiness, but also a push on people that are already online to actually utilize these services, so that people can see that it's not only possible, but works well and might make your experience better.

So that's a whole different set of people to be reaching out to and coordinating with to make this happen.

I'm going to turn to our next speaker, Sarmad, or Rick.

RICK WILHELM: One quick point.

I just wanted to follow on to -- very good points, I just want to emphasize this on the demand side.

I mentioned earlier that we run 10.8, almost 11 million names.

We also, I didn't mention this, we run three IDNs which are transalliterations of dot org or organization in Devin gender-affirming care, Russian, and simplified Chinese.

So you can get dot something, something that kind of roughly means dot org in any of those three things.

We've been running them for a while.

If my preparation was a little tighter I could give you the exact date that we launched them.

It really doesn't matter.

10.8 million dot orgs, under a thousand in each of those other TLDs.

Right?

Yeah.

Under a thousand.

They're not -- we don't do that to make a profit.

Right?

So if they're not economically sustainable.

So just to be -- so the demand is obviously -- they're built, they're ready, anyone that wants to come register, there's plenty of good names available in something dot, whatever, however you would like to say it.

So there's definitely from -- there's not a lot of demand for these right now.

And other TLD operators that operate these things would say the -- would say the same thing.

The demand on the domain name side is not there, because as Susan said, it's latent demand, we believe long-term that this is -- that there's going to be demand, which is why we still run them, but right now the rest of the market has not caught up for this.

So to emphasizing, this is yes anding, building upon Susan's point.

Thank you.

Sarmad, please.

I interrupted you.

>> SUPERHUSSEIN: Thank you --

>> SUPERHUSSEIN: Thank you for giving me the opportunity to speak.

I'm just going to add a couple of points, first just to give you some numbers on where we are on universal acceptance, one of the things we do is do a test of different websites, we look at websites that two levels, one with websites which are used more globally, and then also websites which are actually national level websites across 20 -- we look at about 50 websites across 20 countries, so that's about a thousand websites.

For example, in China, in end eya, in some of these countries, serving local communities, and what we've found out is that if you go and, for example, type local language email address, functional email address in the contact us page for these websites, normally if the address is in a local language, the website would only -- only about 10 to 11% of the website [indiscernible].

So even if you go to China and write a Chinese email address, it's still the same number.

So if you're looking at a thousand websites, 900 websites are announcement A ready, they will not -- valid email addresses, even though we are using valid emails.

So there's a big gap right now.

And I think that's one of the reasons why some of the domain names in these Los Angeles wages are not picking up, because when people start using them they find sometimes technical challenges.

in using them, and I guess that's what we're trying to resolve by doing universal acceptance.

On the other side, on the email, actual email functional side, one of the things we do is we actually, every quarter look at all the [indiscernible] records, which are pointing to email servers, and in the GT [indiscernible] files.

We ping them with a local email address, and the latest numbers are that only 23% of the email servers, and we're pinging about 35 million records, only 23% of them are actually responding to local language email address, the rest of them are not responding or saying that that email address is not valid.

So there's a reasonable gap in websites or email servers, actually accepting these domain names.

One of the things [indiscernible] -- one of the things Rick was mentioning, that there's been some, for example, I guess -- some kind of doubt in the community that maybe these domain names are not [indiscernible], one of the things we've done with working with the community is actually develop label generation rules, which actually extensively look at that site, and make sure the domain names in different languages and scripts which are being actually registered are actually secure and stable to use.

And that's work which is done by the community, supported through ICANN, and published through the label generation rules which are available online.

And I'll share the link of that in the chat as well.

Thank you.

KATHLEEN SCOGGIN: Thank you, Sarmad.

Appreciate it.

Would you mind sharing -- I know I heard from some folks, given the time -- would you mind just sharing your title and what you do really quickly?

SARMAD HUSSAIN: Sure.

My name is Sarmad HUSSAIN, and I am with the ICANN, and currently the senior director for IDN and universal acceptance programs.

Thank you.

KATHLEEN SCOGGIN: Thank you so much.

Appreciate it.

We have a couple questions in the chat that I'm going to integrate, because they're very similar to what I had talked to the panelists about.

So one person asked what fundamental effort can be taken to address UA in terms of projects?

And how long would it take?

I think a good way to address this would be to talk about your organizations, what strategies or initiatives that you have undertaken to promote UA specifically and how have these evolved over time?

So I'm going to start actually with Rick if that's okay.

RICK WILHELM: Sure.

Thanks.

So I guess PIR supports UA in a number of ways.

Probably the first and most fundamental ways that we run and operate our IDN TLDs every day and have for years, we also are active in IDN policy development at ICANN, Sarmad -- Sarmad sees my face at every ICANN meeting, and a number of calls in between, and we're -- we work together consist interest bely.

That sort of thing.

So we do those sorts of things.

We're involved with -- since we're a supporting -- I didn't mention this earlier, we're a supporting organization of ISOC, so we -- our economic output goes towards ISOC, so the work they do in working on these things is funded by PIR.

And then those are the biggest things.

The work we do at ICANN in the policy development is also heavily oriented towards security and stability related to IDNs, because as Sarmad said, it's important for IDNs to not be seen as a security risk per se, because there are -- from time to time things come up with security related to IDNs, and people have this reactionary thing.

Well, just like it should be ASCII only.

Which is not the right answer.

So there's a number of efforts sort of like that.

And then we work also oddly, and this is a thing where sometimes Sarmad and I have had professional disagreements, where we at PIR lobby to allow -- lobby might be the wrong word, especially with Susan in the room.

She might go like this.

We propose that registries be allowed implementation flexibility in IDNs in order to promote opportunity for different registries to implement IDNs in the way that they deem best for their particular local market and the things they're trying to do.

Which oddly, sometimes, Sarmad and I have had this discussion, I said, Sarmad, this might make it difficult for you at ICANN, because the needs we believe -- we believe ICANN needs to allow for differentiation.

In IDNs implementations, registry by registry.

At times Sarmad and I have had disagreements that we work through, because we're both reasonable people.

He's generally more reasonable than I am, but that's because he's Sarmad and I'm Rick.

So that's another thing that we try and do.

We try and -- we want to make it economically encouraging to allow registries to do interesting things with IDN to help this market flourish.

That's one of the things we -- another thing we try and do.

So kind of a long-winded answer, but hopefully that's helpful.

Thank you.

KATHLEEN SCOGGIN: No, that's great.

Thank you.

Susan, do you want to go next?

SUSAN CHALMERS: Yes.

Thank you so much.

And thank you also for the excellent question.

I see that the question addresses -- well, the question is if there's one fundamental effort, but I think it's important to note that the best way to tackle this challenge will be through many different avenues.

So, for example, NTIA, my organization, is exploring opportunities to engage through other international venues, including the Internet Governance Forum, and the International Telecommunications Union and specifically the D sector.

I don't know if there are any colleagues who are government reps on the line, but specifically I think that engaging within the ITU, D, and also the IGF, which is open to of course all stakeholders, I think that's -- that will be a particularly effective venue for raising awareness.

NTIA N. terms of the efforts that we're taking, NTIA, in its capacity as the U.S. representative to ICANN's governmental advisory committee remains committed to tracking efforts to improve UA readiness globally.

ICANN has a central role here to play in building digital inclusion through a multilingual Internet, and we have heard of the -- from Sarmad and Theresa on the many projects and - that they have going on at ICANN.

So that is very helpful to the cause.

I think the next round of new generic top-level domain name applications will be quite an opportunity for IDNs and for applicants to make full use of their new strings and non-ASCII scripts.

And finally, I think one important piece of the puzzle is asking governments to adopt procurement policies that promote universal acceptance.

And we can lead by example.

And so again, raising awareness there for other governments through the ITU, D in particular, should hopefully be an effective avenue for promoting UA.

Thank you.

KATHLEEN SCOGGIN: Thanks, Susan.

I know at the end we're going to talk a little bit more about ways to get involved, so you're going to see links to things like your ISOC chapter, there are dhapts all over the world, as Rick talked a little bit about ISOC, there are chapters where you can get engaged while also -- we'll also talk about ITU and regional IGFs, so those topics will come back up.

So just -- if it doesn't make a ton of sense, wail until the end and hopefully it will make a little bit more sense then.

Theresa, I'll turn it over to you and then might turn it back for the local question that was proposed as well.

THERESA SWINEHART: Absolutely.

I'm actually going to let Sarmad talk to this.

We're doing so many different things that his team is leading, we're taking a holistic approach to this across multiple different levels within our mission and mandate, so if I may, I'm going to have Sarmad drill down into the details, because there's some very specific project related ones which go to the question about how long it takes.

Sarmad, over to you.

SARMAD HUSSAIN: Thank you, Theresa.

So I think one of the main things, at least I'd like to highlight here of course is that ICANN is of course committed to supporting digitally inclusive and multilingual Internet, and that obviously shows up through its strategic plan, which ICANN has I guess defined for the years 20 twin-25, which has IDNs and UA as part of the strategic focus.

For that purpose it also has very focused program within ICANN, on IDNs and UA, the program is running multiple projects which are supporting policy development around

IDNs, their implementation, and in addition to that also actually a whole program focused on universal acceptance of top-level domains, including the ASCII, new GDLDs as well as internationalized domain name.

ICANN -- the board has a focus on this, they have a working group focused on IDNs and UA, which obviously provides oversight on the work by the ICANN organization on this.

I can also continue to support continue work in this area, one of the organizations or community formed organizations which ICANN has been supporting since 2015 is the Universal Acceptance Steering Group, which actually comprises of many organizations and individuals who are currently focusing on I guess gauging what the gaps of UA are, prioritizing the work which needs to be done, and obviously also determining some of the guidelines for taking on this work.

There is also work in other parts of ICANN community, for example, the government advisory committee has formed a team which focuses on working group, which focuses on IDNs and UA, there is also some focus on this, especially on UA by the at large advisory committee or ELAC, and more recently the country coordinating supporting organization, NCSO, has set up a UA committee which is going to be working with the CCTLDs globally to raise awareness of UA.

So there is a very significant focus of community raise awareness of universal acceptance, as well as of course a priority which ICANN is putting in as well, this for ICANN this also includes making its own systems UA ready, so as to lead by example.

So what's happening is that we actually have a dedicated internal program which is looking at the work ICANN internal systems and making them UA ready as well.

And one of the more recent achievements has been that all the email systems of ICANN is now at least level one UA ready, meaning if you are sending us an email using your Chinese email address or an Arabic email address we will be able to receive that email and respond to that email.

So we are making progress, making our own systems UA ready as well.

Thank you.

THERESA SWINEHART: I just -- thinking about Rick and Susan's points and everything, and Sarmad's -- everything that we're doing as well, to the question -- in my view there's no single project in that sense.

There's a multitude of projects that are essential around this.

There's the partnerships, there's putting contracts out for bid and maybe putting requirements into that that can achieve a result.

There's working with specific entities and engaging with them on testing and how that might work.

To one of Rick's observations, one may have the systems ready, but there may not be a level of demand.

That also instigates maybe further needs for awareness that this actually does exist, and there is the option to utilize it.

A lot of times we may be dealing with something in life and we may not realize that that service actually exists, or this product actually exists.

But then all of a sudden we realize and learn it does exist, and that's what I need to make the rest of something work.

And so how do we also provide awareness that it is actually possible to have that full experience of having your email address fully accepted or your website fully accepted in the language or script of choice.

So I would say to answer the -- to add on to the question, the discussion, it's no one single project, it's a multitude of them, but making sure we're keeping an eye on what the overall objective is, which is the inclusivity aspect, and where can we mitigate for where we're seeing gaps to the observations that Rick and Susan and Sarmad had also made.

So I think working together is key on all of this.

KATHLEEN SCOGGIN: Go ahead, Rick.

RICK WILHELM: Thank you.

Just to build on something Theresa said, when she was talking about that point there, it reminded me of something that is actually S. I'll give something else that happens that's very even behind the scenes behind the scenes, an area that we do at PIR and also ICANN does, and other folks do, but there's standards bodies that work, so -- we at PIR and ICANN also participate in the IATF, Internet Engineering Task Force which sets technical standards that help make all this stuff run.

And I'll just tell a brief story that sort of kind of causes temple rubbing about just how hard this stuff is.

Over three years ago, someone came to the IATF, happened to be from Russia, and they said, hey, we want to be able to use an internationalized email address in the standards, Sarmad, this is EPP in EAI -- and to be able to use a domain name, internationalized domain name when we're registering domain names, and we want that to flow through cleanly.

And so me and someone else, and someone -- and them said, should be a piece of cake.

Let's go write up the standard.

And literally three years later, it's not done.

Because we thought it was going to be a piece of cake, and just endless complications came in because, like, oh, this is -- this is complicated.

Along a number of completely unforeseen axes.

And three years later, we, like serious technical experts, have not solved this standards problem whereby you'd think oh, how hard can it be?

We've got an email address in the thing, we just want to add -- to make it be internationalized.

Piece of cake.

Oh, no.

It was just -- it's still, now it's almost done, and like it's in the final throes, but it took us three years of standard setting to be able to do this.

And now it's got to get added into all the systems.

You'd think we want -- you want to be able to have your email address of record be internationalized, all the way throughout the domain name registration flow, how hard can that be?

Well, it turns out it was pretty doggone hard.

So there's a lot of collaboration that needs to get done with this, and a lot of problems to solve for interested parties that get involved and want to contribute to this.

So to sort of add on to Theresa's point, and also to give credit to the kind of deep involvement that various parties in the industry, including ICANN, are doing to help work on this.

Thank you.

KATHLEEN SCOGGIN: Thanks, Rick.

I think that's a great point.

Thinks might seem simple in this world, and it sometimes takes way longer than expected.

I'm going to jump back to Sarmad or Theresa before we move on to the next question.

Because there's a question in the chat about UA, local initiatives and ambassadors.

And which regions or countries seem to be raising the potential that IDNs hold in making inroads towards UA readiness?

I'm not sure if there's additional things you want to expand on what you've already said to answer that question.

I see Sarmad has his hand up so I'm going to take that as a yes.

SARMAD HUSSAIN: Thank you, I'll try to attempt to answer the question.

So just to -- before we go into it, just to explain what a local initiative and ambassadors are for those who don't, so through I guess the communities, the steering group and with the support of ICANN, we are collectively supporting individuals and organizations to take this message to local -- to a local level.

And that is done either through UA ambassador as an individual, or local initiatives as an organization to help take this message.

To different communities.

We have 13 different ambassadors in different geographies, we support them as well as five different local initiatives at this time.

So when you have to solve the problem, the problem has to be solved at two layers.

One, of course, is that the globally -- the technology or tools need to support internationalized domain names.

And their universal acceptance, of course.

But -- so the tools need to be updated and so that's more of a global layer.

But once the tools are available, they need to be deployed on the cloud.

And for that it needs to be done at the level where people can go to web developers, email us administrators, and tell them that this is available, can you update them or make your -- design your websites in a way this is done appropriately.

And that's where local initiatives and ambassadors of course come in.

We've had some real great examples, there are many great examples I'll just share two of them, where one is from Sri Lanka, for example, we have a local initiative.

And what they've done is they've actually worked with the Buddhist monk association, it's a nonprofit organization which has all the Buddhist monks and they normally communicate in their -- in a local language in script.

And they have obviously hundreds of years of history in this script with their own Buddhist I guess text, which they are documenting and they are obviously communicating in local language as well.

And one of the things which, as I guess a project is to showcase the potential work that Sri Lankan local initiatives have done is made the website of this Buddhist monk organization completely UA ready in their script, they issued email addresses to these monks in that script, and they're now trained them to use and communicate among each other and disseminate their information through, all in script using that script's domain name, as well as email addresses using it.

Another good example comes from China, where we -- we have an organization working with the Chinese government and they have all come together, the ministry in China has improved the Chinese domain names in their next five-year plan, and they are now working with the industry to implement that policy, which is devised by the ministry to make sure that all the different technology companies, their web browsers, email service providers are supporting Chinese domain names.

Those are examples local initiatives are making contributions and making these domain names and email addresses accessible to local communities.

Thank you.

KATHLEEN SCOGGIN: Thank you, Sarmad.

I think that is an important example of there's sort of the high-level government collaboration that comes in a lot of what Susan is doing, and then there's also the local initiatives collaborating with local developers and really figuring out what they need exactly to be successful.

On that same line, I'm going to ask the next question, which is, how do legal frameworks and -- one legal frameworks and technical standards interact, how does this work in regions where regulatory environments vary, how have you found sort of compromise in working together?

Susan, I'm going to start with you.

SUSAN CHALMERS: Thank you.

So I think that at least from the government perspective, we do, again, have a unique and important role to play in encouraging and accelerating UA readiness.

And just a kind of to harken back to what I mentioned earlier, governments can first lead by example, by becoming UA ready themselves.

And offering UA ready e-government services.

I think for the United States, this is of course -- where we're looking at a pre dominantly English environment, probably it's not the highest thing up on the agenda for the United States, but that is something still that NTIA is looking at how to encourage within the internal process.

But also, again, the procurement processes, I think that is just a separate but related step that governments can take.

The United States is the largest purchaser in the -- the United States government is the largest purchaser in the world, I think that if we're able to find a way to weave in a UA requirement in procurement processes, it would be incredibly beneficial, but more importantly, for governments that do have predominantly national languages in non-ASCII scripts, if you will, that could be a very important road to take.

I think what we can do is help raise awareness of this issue through the various international venues in which we participate whether multilateral or multistakeholder, we will continue to do that.

But, again, we can harken back to the latent demand issue.

Until Internet users really understand that a multilingual Internet is possible, they will be unable to manifest the kind of demand for software developers and companies to change, and so I think one way for a government to promote that is to really do -- to really raise awareness there.

And so I think that this could be more effective than just taking a strictly regulatory approach, but again, I am not sure that we would -- we would advise against that, but I think that promoting these different nonregulatory avenues could be very helpful to the overall cause.

Thank you.

KATHLEEN SCOGGIN: Yeah, thanks, Susan.

I think that's a mechanism that people often forget exists, and really influences the market heavily.

There's always the question of, is it the market forces or government.

It's a whole other debate and whole other event.

I think that's a very interesting point.

We had a question in the chat that I'm going to -- unless Theresa you have something else to add.

THERESA SWINEHART: I think Susan highlighted it, and I don't know that legal frameworks are a necessary path.

I think there's opportunities for encouraging the use and the uptake.

We often think of UA readiness purely from an economical standpoint, and studies indicate the benefits from an economic standpoint that could exist with UA readiness.

But there's also the societal implications.

In going to the procurement aspect and going to the societal implications, encouraging at the educational levels awareness around this, that this does actually exist, that there could be a demand, encouraging the use of language online, and having that full experience, encouraging and finding ways to encourage whether it's educational institutions or hospitals, or other societal groups that are dealing with multilingual languages, and a

diverse population to utilize those systems, if you have a hospital and you're providing an online service, but you can't get on to your account because either your name is too long to the right or left of the dot, or you're signing on with Chinese character sets, that's not going to do you any good.

Because you're not going to be able to get into your account if there's not UA readiness around that.

And yet when -- may create a barrier to an entire segment of a population that one actually wants to serve.

So I think Susan, to your point and to the awareness about this does actually work, really, encouraging all stakeholders to have a role and responsibility around this and maybe working with the different government agencies that -- and thought leaders in communities around this so that the societal benefit of retaining one's language and engaging that way is also balanced, and then of course there's always an economic benefit.

There's always a business model or economic attributes around that.

But importantly being able to serve that entire community and having that experience when you're providing a service that's an online service, and certainly going to Sarmad's point about even ICANN's work, if I were to try to go online and register my car, and I happened to be having -- using my name but with, I don't know, further than three letters to the right of the dot, or maybe I'm deciding that I want to use a German spelling or umlaut or whatever it might be, and I can't get on to my account, those are very simple things.

I don't want to undermine P. or underestimate the amount of work it takes to make that feasible, but it's that user experience of being able to actually log on.

So I think there's opportunities there as well.

KATHLEEN SCOGGIN: Thanks, Theresa.

Rick?

Go ahead.

RICK WILHELM: I'll just put on my engineering hat for a second.

As Theresa said, that's just simply bad software.

In this day and age, if we have users with another sis theme can't log in with a TLD that's longer than three letters, I want people to buy dot org, but if they register, I also -- we also have dot foundation.

And if we would love Theresa to register Theresa.foundation, or if she has a family foundation, they should be able to have Theresa@nieca.foundation.

Or something like that.

And if they can't use dot foundation, that's kind of ridiculous in 2024 that someone can't use a TLD that that is that lodges.

I know -- that long.

I know, and probably Theresa does too, people that have TLDs that are not three letters, and their companies, that we both know, have had to switch their email off of their native TLD to a dot something, to a dot three letters, because their email wouldn't work.

And we're not talking any sort of a fancy non-Latin script.

We're just talking four or five characters.

I mean, that's just bad software.

That's the just bad engineering.

And we as consumers, just wearing our consumer's hat, Susan is talking about putting government procurement stuff in place, and that's -- maybe that's the lever it takes, we're not talking -- even just bare minimum, a fancy test of getting stuff to work right at the dot with Arabic script, that would be great, but come on, folks, let's make things work if there's more than three letters to the right of a dot.

That is just terrible engineering in 2024.

It shouldn't be -- that's kind of silly, if you ask me.

Thank you.

I don't know, maybe Theresa wants to go on that.

She came off mute.

THERESA SWINEHART: No.

I think you make a great point.

I think it's -- as Sarmad has often shared with me, it's also up to the technical spurts to make applications and software UA ready.

So there's a mutual role and responsibility here, and I think your example is spot on.

Spot on.

KATHLEEN SCOGGIN: Thanks, Rick.

That actually, someone had just asked the question in the chat, technically what kind of tools and software are working in order to function the UA ecosystem around the globe, so I don't know if there's more on that.

I'm not a technical person and I won't pretend to understand on that front.

But I think there are more technical people is my impression, online today, so I don't know if you have more to say on that front.

RICK WILHELM: Go ahead, Sarmad.

SARMAD HUSSAIN: Thank you.

So I would actually -- there's a whole software, host of layers of software, you have programming language, email tools, you have authentication tools, as well as social media online.

So I think it's -- there's no easy way to answer this very concisely, but what I would suggest is that if you go and see the UA readiness report for FY, recently published FY '23, it takes you through all these types of software and actually presents a somewhat of a concise picture linking to more detailed reports on what works, what doesn't work, and if it doesn't work, why not.

So I'd encourage you to go and look at that report.

I'll put the link in the chat again.

But I think that does comprehensively answer your question.

Thank you.

KATHLEEN SCOGGIN: Thanks, Sarmad.

Joe had put it in the chat earlier, but if you're able to put it again, I think that would be great.

I'm going to move to our last question for tonight, and that is for students and professionals interested in getting involved in some of this work.

How can they work either within your respective organizations or organizations that you have experience with to get more involved and learn more?

Outside of reading the readiness report.

Whoever wants to start first can start.

Maybe Theresa?

ICANN has so many --

THERESA SWINEHART: Sure.

I would say get involved in the part that you're interested in.

If you're interested in the societal aspects, get involved in some of the societal awareness initiatives.

Whether it's in partnership with other organizations or within the ICANN structure, or what ISOC is undertaking or the Internet Governance Forum has different events.

Get involved in the part that interests you.

If there's the technical aspect and one is versed in that area, or one is from the software engineering side, get active and get involved in that area.

And importantly also lead by example.

But I think the important part is really contributing and getting involved in whichever dimension of it that contributes to the creating of awareness and the opportunities around it.

And share one's ideas.

There's no single path on this.

There is a global awareness that this is a core element of inclusivity.

And one oftentimes hears there's multiple discussions around inclusivity, broadband, Internet access, the ability to receive an education, the ability to participate.

This is one element of inclusivity that goes into the digital environment that's fundamentally important.

So I would encourage to get involved in the aspects that are of interest.

And also if you're in a role or responsibility that can contribute to that, whether it's, I don't know, an educational institution, or a hospital, or some group or whatever it might be, not just a business, awareness that this actually is available and this should work, and to Rick's point, there's some fundamental things that just need to be put in place, and figure out how to problem solve around that.

So that would be my advice on that.

KATHLEEN SCOGGIN: I will just add to Theresa's point that the fellowship program in ICANN is an awesome place to start.

Very comprehensive in terms of learning more about the DNS and specific issues like UA, but there are also lots of other parts of ICANN that people are working on.

That you'll be able to find a place for you there, for sure.

Because it can be a very overwhelming environment with a lot of acronyms, but once you get through it, there's a lot of places to get involved.

We do have one more question in the chat that I would just ask quickly, unless Susan or Rick had other things in terms of getting involved.

SUSAN CHALMERS: I would just say that -- I agree with Theresa, it depends on your particular interest.

If you're a researcher, a student, I think that much more research is needed to better understand the impact that IDNs are having on digital inclusion.

I think more research could be done to look at the tie between local language content and IDNs.

And how local language content is actually engaging people and bringing them online.

I think it's remarkable that out of the estimated, I believe it's maybe 3. billion people that are not yet online, 85% are actually covered by network infrastructure, but remain offline.

So what is -- what is missing that's -- that that isn't helping to spur that demand?

It could be that there isn't relevant local language content to suit their interests.

And we know that local language content can be promoted by IDNs and again, the universal acceptance, of course, is kind of a foundational element of all of this.

But the lack of multilingualism on the Internet is a key contributor to this adoption gap, and so we view it as a significant barrier to Internet connectivity.

So I think if folks are looking, doing research into that, that would also -- that would be helpful.

And then Theresa has mentioned the IGF, and it will be in Riyhad this year, so I think a very kind of ripe ground for discussion on the use of non-ASCII languages online, so we support that topic within the IGF, and their proposals.

The workshop proposals process is open now, so folks want to submit on that, it actually closes on April 30th.

So that's another way to get involved.

KATHLEEN SCOGGIN: Great, thanks so much, Susan.

I'm going to drop my email in the chat as well on the academic side, at least.

There's a lot of things I talked about at the beginning going on at American University, and there's always space for more research and new and innovative ideas.

I will also throw out there that I'm also part of the ISOC youth ambassador program, which is a great way to get involved with Internet society, so if you have any questions on that, and know lots of folks within the IGF and youth IGF space, and I'm happy to connect you as I can.

Or connect you to one of these people that can connect you.

We have one last question that goes a little bit more technical in the chat that I'd like to address before we finish up here.

It is, email address internationalization support verification at present is up to the email servers.

How does it go to the specific email address?

I'm going to turn that to Rick.

RICK WILHELM: Sure, thanks, Kathleen.

So I'm not exactly sure what the target of the question is, but let me try and make a run at it and we'll see how we do.

So when we talk about an internationalized email address, so there's -- that's a non-- non-ASCII characters, left and right of the dot.

And so the challenge in email is that there's a lot -- much like the example that we used with the previous hypothetical, postal address letter that was going from me to my friend at JPRS in Tokyo, it's got to pass through a lot of different hands.

It doesn't -- it's just not going -- I just can't reach across the ocean with Gumby arms and hand it to my friend Hiro in Japan.

There's the client on my end, which we'll just say for right now is simply on my phone, but it might be on your -- on my laptop.

And then there's another -- like a mail transfer agent on my -- in my server, and then there's transfer agents in between, and then there's a delivery agent on his end, and then there might be an MSP, Mail Service Provider in between, and a client on his end.

And all of those folks in between that are looking at that address have to be capable of dealing with it, and then also on the other end, when he finally sees it, it's got to be translated back into its original form and displayed to him in the original way that it was meant to be displayed to him.

And so the challenge there is that all that stuff has to work cleanly, and if it doesn't, things can get gashled.

The end point -- the end points are the most brittle, because typically stuff gets translated to ASCII at the end points and handled at ASCII in the middle and gets translated at the end, but it's kind of a hand wavy explanation because we don't have a white board, not quite clear on the question, but it's more than just one -- the main point of it and the main gist I want to communicate is that it's more than just one piece of software that has to work.

The document that Sarmad had referenced has a very good explanation of the different components of this.

And also talks about different components that test out at different levels of quality.

And so hopefully that answers the question good enough.

Sarmad, if you want to come off mute and add in any others, please feel free to do so.

SARMAD HUSSAIN: I'm just going to add a little more detail.

So there's actually for internationalized email addresses, there's this additional technical flag, it's called SMDPUF8, which needs Spongebob supported by all the tools to support the email.

And Kathleen helped share a link in the chat, which actually points to some of the training materials, which talk a little more about how to support this flag and how email I guess services work to support EI.

Please look at these training materials, they will also be available on the link as well, and please feel free to reach back to us if you have any questions.

Thank you.

KATHLEEN SCOGGIN: Thank you.

Sorry to flip flop back to the technical, I just want to make sure no one's question got missed.

I don't know if you all have any further closing thoughts that you wanted to provide, I'll give you the mic if you will.

If not -- go for it, Theresa.

THERESA SWINEHART: First of all, thank you for holding this session.

I think it's incredibly useful and valuable, and great opportunity to share from different perspectives what is happening.

None of us can do this on our own, this is an awareness issue where everybody has an opportunity to contribute and make this possible.

And it's a global effort.

I think as Susan mentioned, from a North American standpoint, yes, English is a dominant language, but we have many, many non-native English speakers that live whether in the U.S. or in Europe, or other parts of the world, and so regardless of which region one is

in, having these events and the awareness is fundamentally important to whatever vast number of local languages exist in one's county and one's village and one's city and state, country, it doesn't matter.

And so really appreciate the efforts around this U. and just wanted to say thank you for taking the university to do it.

KATHLEEN SCOGGIN: Susan?

SUSAN CHALMERS: Yes.

Also would like to thank you, Kathleen, for convening this conversation.

This is something that is a really important to NTIA for various policy kind of different policy perspectives.

And just also note that we're looking to soon publish a report from the IGF2023, we had a panel on universal acceptance and multilingualism, and so I'll be sure to share that with you when it does come out.

If it would be helpful for you to share with the participants from today.

Also, I'll pop my email address in the chat, and so welcome anybody to reach out with any further questions about how NTIA's involved or what our good channel -- what are good channels for government officials to be able to engage on these issues.

And yeah.

Just thank you.

And thanks to all of my colleagues on the panel.

It's been wonderful to bounce ideas and exchange views.

Thank you.

RICK WILHELM: Thank you.

And also, thank you also Kathleen, and the team at the Internet governance lab for putting this on.

I think it's a great panel and thank you very much for having me on it.

I would also -- and I think at PIR we certainly appreciate the NTIA's approach to these kind of matters, and their ongoing support of the multistakeholder model, and ICANN on an ongoing basis.

I think one of the things that deserves credit is that the point Susan made earlier on about look, while it's tempting to throw a regulatory policy at this, that's not the best way.

And I think that's a really important point that the multistakeholder model is really alive and well in what's going on in and around UA, and ICANN is a great example of that, and it's -- NTIA's support for that is important.

And integral.

And certainly at PIR we appreciate that.

We also appreciate the work that ICANN does in this regard, and Theresa and the team and Sarmad and such, and we certainly appreciate the partnership there.

Also, we would like to -- it's important to note and also for the folks on the call, other -- we're a GTLD operator, but there's CCTLD operators around the globe that do great work in and around IDNs that are also, if you're interested in looking into these things, you can learn -- I learn a lot from CCTLD operators.

Their local perspective on this is, every time in my opinion an ICANN meeting or an ITF meeting, I'm talking to those folks.

So there's a lot to be learned there also.

And so once again, thank you, Kathleen, really appreciate the opportunity.

KATHLEEN SCOGGIN: Yeah.

Thank you all on behalf of both the Internet governance lab, and the security program, thank you all, I know you're busy people, so I appreciate you taking the time out of your day to do this.

And I think it's so important to have technologists and lawyers and policymakers come together and attempt to speak the same language to answer these kind of questions and teal with these issues.

Thank you so much, and I'm going to stop the recording.

Thank you all for coming.